

The invention claimed is:

- 1 A method for encoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a prior transmitted
4 message, where the first and second plurality are unequal; and
5 transmitting a message from one of at least the first and second group of messages.
- 1 2. The method of claim 1, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.
- 1 3. The method of claim 1, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.
- 1 4. The method of claim 3, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.
- 1 5. A method for encoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a prior transmitted
4 message, where the first and second plurality are unequal; and
5 transmitting a message from one of at least the first and second group of messages,
6 where a message from the first group is transmitted at a different power than a message from the
7 second group.
- 1 6. The method of claim 5, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.
- 1 7. The method of claim 5, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.

1 8. The method of claim 7, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.

1 9. The method of claim 8, wherein a message from the first group is transmitted using
2 less power than a message from the second group.

1 10. A method for encoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a prior transmitted transmit rate request message, where the first and
5 second plurality are unequal; and
6 transmitting a transmit rate request message from one of at least the first and second
7 group of messages by replacing at least a portion of a pilot signal with a signal representing at
8 least a portion of the transmit rate request message.

1 11. The method of claim 10, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 12. The method of claim 10, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.

1 13. The method of claim 12, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.

1 14. A method for encoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a prior transmitted transmit rate request message, where the first and
5 second plurality are unequal; and
6 transmitting a transmit rate request message from one of at least the first and second
7 group of messages by replacing at least a portion of a pilot signal with a signal representing at

8 least a portion of the transmit rate request message, where a message from the first group is
9 transmitted at a different power than a message from the second group.

1 15. The method of claim 14, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 16. The method of claim 14, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.

1 17. The method of claim 16, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.

1 18. A method for decoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a prior received
4 message, where the first and second plurality are unequal;
5 receiving a message; and
6 determining to which of at least the first and second group of messages that the message
7 belongs based on an amount of power received with the message.

1 19. The method of claim 18, wherein a first number of bits used to identify messages in
2 the first group is different than a second number of bits used to identify messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 20. The method of claim 18, wherein a message from the first group has a higher
2 probability of being received than a message from the second group.

1 21. The method of claim 20, wherein a first number of bits used to identify messages in
2 the first group is less than a second number of bits used to identify messages in the second group,
3 the first number of bits being at least equal to one.

1 22. A method for decoding messages, comprising the steps of:

2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a prior received transmit rate request message, where the first and
5 second plurality are unequal;

6 receiving a transmit rate request message where at least a portion of the transmit rate
7 request message is interleaved with at least a portion of a pilot signal; and

8 determining to which of at least the first and second group of messages that the transmit
9 rate request message belongs based on an amount of power received with the transmit rate
10 request message.

1 23. The method of claim 22, wherein a first number of bits used to identify messages in
2 the first group is different than a second number of bits used to identify messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 24. The method of claim 22, wherein a message from the first group has a higher
2 probability of being received than a message from the second group.

1 25. The method of claim 24, wherein a first number of bits used to identify messages in
2 the first group is less than a second number of bits used to identify messages in the second group,
3 the first number of bits being at least equal to one.

1 26. The method of claim 22, wherein the amount of power received with the transmit rate
2 request message is determined relative to an amount of power received with another signal.

1 27. The method of claim 22, wherein the amount of power received with the transmit rate
2 request message is determined relative to an amount of power received with the pilot signal.

1 28. A method for encoding messages, comprising the steps of:

2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a current system state,
4 where the first and second plurality are unequal; and

5 transmitting a message from one of at least the first and second group of messages.

1 29. The method of claim 28, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 30. The method of claim 28, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.

1 31. The method of claim 30, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.

1 32. A method for encoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a current system state,
4 where the first and second plurality are unequal; and
5 transmitting a message from one of at least the first and second group of messages,
6 where a message from the first group is transmitted at a different power than a message from the
7 second group.

1 33. The method of claim 32, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 34. The method of claim 33, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.

1 35. The method of claim 34, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.

1 36. The method of claim 35, wherein a message from the first group is transmitted using
2 less power than a message from the second group.

1 37. A method for encoding messages, comprising the steps of:

2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a current system state, where the first and second plurality are
5 unequal; and

6 transmitting a transmit rate request message from one of at least the first and second
7 group of messages by replacing at least a portion of a pilot signal with a signal representing at
8 least a portion of the transmit rate request message.

1 38. A method for encoding messages, comprising the steps of:

2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a current system state, where the first and second plurality are
5 unequal; and

6 transmitting a transmit rate request message from one of at least the first and second
7 group of messages by replacing at least a portion of a pilot signal with a signal representing at
8 least a portion of the transmit rate request message, where a message from the first group is
9 transmitted at a different power than a message from the second group.

1 39. A method for decoding messages, comprising the steps of:

2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a current system state,
4 where the first and second plurality are unequal;

5 receiving a message; and

6 determining to which of at least the first and second group of messages that the message
7 belongs based on an amount of power received with the message.

1 40. The method of claim 39, wherein a first number of bits used to identify messages in
2 the first group is different than a second number of bits used to identify messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 41. The method of claim 39, wherein a message from the first group has a higher
2 probability of being received than a message from the second group.

1 42. The method of claim 41, wherein a first number of bits used to identify messages in
2 the first group is less than a second number of bits used to identify messages in the second group,
3 the first number of bits being at least equal to one.

1 43. A method for decoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a current system state, where the first and second plurality are
5 unequal;
6 receiving a transmit rate request message where at least a portion of the transmit rate
7 request message is interleaved with at least a portion of a pilot signal; and
8 determining to which of at least the first and second group of messages that the transmit
9 rate request message belongs based on an amount of power received with the transmit rate
10 request message.

1 44. The method of claim 43, wherein a first number of bits used to identify messages in
2 the first group is different than a second number of bits used to identify messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 45. The method of claim 43, wherein a message from the first group has a higher
2 probability of being received than a message from the second group.

1 46. The method of claim 45, wherein a first number of bits used to identify messages in
2 the first group is less than a second number of bits used to identify messages in the second group,
3 the first number of bits being at least equal to one.

1 47. The method of claim 43, wherein the amount of power received with the transmit rate
2 request message is determined relative to an amount of power received with another signal.

1 48. The method of claim 43, wherein the amount of power received with the transmit rate
2 request message is determined relative to an amount of power received with the pilot signal.